

**REMARKS**

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

**Disposition of Claims**

Claims 1-9 are pending in this application. Claims 1 and 5-7 are independent claims. The remaining claims depend, directly or indirectly, from claim 1.

**Claim Amendments**

Claims 1 and 5-7 have been amended to clarify the invention recited. The amended limitations were previously presented. No new matter is introduced.

Applicant respectfully requests that these amendments be entered, at least for the purpose of appeal.

**Rejection(s) under 35 U.S.C. § 112**

Claims 1-9 were rejected under 35 U.S.C. § 112, second paragraph, for lack of written description support (new matter). The rejected limitations have been removed and the original limitations have been restored. Accordingly, withdrawal of this rejection is respectfully requested.

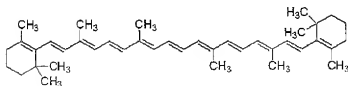
**Rejection(s) under 35 U.S.C. §103(a)**

Claims 1-9 were rejected under 35 U.S.C. §103(a) as being unpatentable over Murad (U.S. Patent No. 6,630,163), in view of Murad (U.S. Patent No. 5,962,517), and further in view

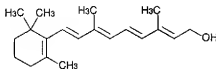
of Gildenburg et al. (U.S. Patent No. 6,217,852). Claims 1 and 5-7 have been amended. To the extent that this rejection may still apply to the amended claims, this rejection is respectfully traversed.

As discussed in the present specification, prior art compositions often include vitamin A or its derivatives (e.g., Vitamin A acid). Vitamin A derivatives, especially vitamin A acid, may make the skin sensitive to light and may lead to dry skin, red swelling, itching and dermatitis. (see paragraph [0012] in U.S. 2004/0228908). Inventors of the present invention have found that carotene does not have these adverse effects, while maintains the benefits of vitamin A or vitamin A acid. Thus, a composition of the invention is free of vitamin A or vitamin A acid.

As presented in previous responses, embodiments of the invention use carotene instead of vitamin A (or its derivatives). Although carotene can be converted into vitamin A via multiple enzymatic steps inside our body, carotene belongs to the “carotenoid” family, not the retinoid family, and is a chemical distinct from any of the retinoid family members. (see structures shown below). To one skilled in the art, carotene and vitamin A are distinct chemical entities. Therefore, a topical composition comprising carotene is distinctly different from that containing vitamin A, and vice versa.



β-carotene



vitamin A

The examiner asserts that if a composition contains carotene, this composition is not substantially free of vitamin A or its derivatives, because carotene is a precursor of vitamin A. This logic is as flawed as the statement: "a composition including acetic acid is not substantially free of cholesterol because acetic acid is a precursor of cholesterol." The Examiner chose to ignore that fact that the precursor and final product are different chemical entities and that multiple steps of enzymatic reactions are needed for the conversion.

The patentability of a composition should be judged based on its components as claimed, not how it could have been converted inside our body. Furthermore, these are topical compositions to be used on the skins. They will not encounter the necessary enzymes to convert carotene into vitamin A.

That one skilled in the art would not consider that vitamin A derivatives include carotene is also evident in the Murad '517 patent cited by the examiner. The acne reducing composition disclosed in Murad '517 patent includes a vitamin A source and a carotenoid component, among other things. If vitamin A sources include carotenoids, then they will not be listed separately.<sup>1</sup>

<sup>1</sup> In the background section, Murad states "Some non-enzymatic antioxidants, such as Vitamin E (tocopherol), Vitamin A (beta-carotene), and Vitamin C (ascorbic acid) have each been individually applied to assist the skin in scavenging free radicals." This statement is incorrect because vitamin A is not beta-carotene. The Examiner seems to latch on this erroneous statement and insists that vitamin A = carotene. One skilled in the art would readily recognize the mistake. Applicant should not be penalized for others' misstatements.

Applicant respectfully submits that a combination of Murad '517, Murad '163, and Gildenburg '852 fails to teach or suggest all limitations of the amended claims 1 and 5-7. Specifically, they fail to teach or suggest at least one limitation of the claims of the invention, i.e., "wherein the composition is substantially free of vitamin A or vitamin A acid."

Murad '517 teaches a pharmaceutical composition for the treatment of acne comprising an acne reduction component. The acne reduction component is a vitamin A source, a carotenoid component, a vitamin B<sub>6</sub> source, and a zinc component. (Col. 3, lines 41-43; 56-58). This composition specifically includes a vitamin A source and a carotenoid component, indicating that Murad recognizes that these are distinct chemical components. Further, Murad '517 teaches "Vitamin A is necessary for healthy skin cell growth and tissue formation." (Col. 5, lines 60-61). Therefore, Murad '517 teaches away from a topical composition substantially free of vitamin A or vitamin A acid. At the minimum, Murad '517 fails to teach or suggest a topical composition substantially free of vitamin A or vitamin A acid.

Murad '163 teaches a dermatological agent including at least one fruit extract from pomegranate. (Col. 6, lines 26-28). The composition may further comprise a moisturizing agent, a sunscreen or sunblock component, antioxidants, etc. The antioxidants may be a catechin-based preparation, a vitamin A source, a ginkgo biloba extract, a silymarin source, a quercetin compound, a vitamin C source, a carotenoid, or a mixture thereof. (Col. 7, lines 8-11). The vitamin A is typically present in an amount from about 5 to 50 weight percent. (Col. 14, lines 57-59). Again, Murad '163 does not teach or suggest a composition substantially free of vitamin A or vitamin A acid.

Gildenburg teaches personal cleansing compositions having photoprotective agents. Specifically, Gildenburg et al. taught a composition for use as a sunscreen applied during washing. The composition includes photoprotective agents of the organic type (e.g., octylmethoxy cinnamate and oxybenzone), the inorganic type (e.g., titanium oxide and zinc oxide), or combinations of the organic and inorganic agents. (Abstract) Examiner cites Gildenburg for the teaching of surfactants. Similarly, Gildenburg fails to teach or suggest a composition substantially free of vitamin A or vitamin A acid.

Although obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention, none of the cited references provide teaching, suggestion, or motivation to produce a topical composition substantially free of vitamin A or vitamin A acid. This is because none of these references recognize the drawback of having vitamin A or vitamin A acid in a topical composition. If the Examiner is relying on personal knowledge to maintain this rejection, Applicant respectfully requests that the Examiner provides an affidavit pursuant to 37 C.F.R. § 1.104(d)(2).

In view of the above, a combination of Murad (U.S. Patent No. 6,630,163), Murad (U.S. Patent No. 5,962,517), and Gildenburg et al. (U.S. Patent No. 6,217,852) fails to teach or suggest each and every limitation of the independent claims 1 and 5-7. Therefore, claims 1 and 5-7 are patentable over these references. Dependent claims should also be patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

### Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 17469/004001).

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Respectfully submitted,

By 

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